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| **MINNESOTA ANNUAL PESTICIDE AND FERTILIZER SURVEY** |

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|  | OMB No. 0535-0218 Approval Expires: 11/30/*2023*Project Code: 778 QID: 163695SMetaKey: 3695 |
| **Clean Copy for Crop Year 2021** **Survey collected spring of 2022**Wheat and Soybean – Updated 3/22/2021 |
| **SURVEY_LOGO_1:USDA_logo_bw.gif** | **United States****Department of****Agriculture** |
|  |  | **(Conducted by phone only)** |  | **NATIONAL****AGRICULTURAL****STATISTICS****SERVICE** |

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|  |  |  |  |  |  |  | **MINNESOTA DEPARTMENT OF AGRICULTURE** |
|  |  |  |  |  |  | **USDA/NASS -** **MN** 210 Walnut St., #833Des Moines, IA 50309 Phone: 1-800-772-0825 FAX: 1-855-271-9802 e-mail: NASSRFOUMR@nass.usda.gov  |
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| Please make corrections to name, address and ZIP Code, if necessary. |  |
| The information you provide will be used for statistical purposes only. Your responses will be kept confidential and any person who willfully discloses ANY identifiable information about you or your operation is subject to a jail term, a fine, or both. This survey is conducted in accordance with the Confidential Information Protection and Statistical Efficiency Act of 2018, Title III of Pub. L. No. 115-435, codified in 44 U.S.C. Ch. 35 and other applicable Federal laws. For more information on how we protect your information please visit: https://www.nass.usda.gov/confidentiality. Response is **voluntary**. According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB number is 0535-0218. The time required to complete this information collection is estimated to average 35 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.The Minnesota Department of Agriculture, in cooperation with the National Agricultural Statistics Service (NASS), will conduct periodic surveys of major crop producers that collect information on pesticide and fertilizer use and pesticide use rates. Survey respondents are randomly selected, and the reported results are based on advanced standardized statistical analyses conducted by NASS nationwide. Your response is necessary to help provide the best statistics possible. If there are any questions, contact the Minnesota State Statistician at (615) 728-3113. |

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| 1. Did this operation plant any *[[WHEAT]]* or *[[SOYBEAN]]* in 2021? |
| 1[ ]  Yes - Continue |  3[ ]  No – Go to Conclusion |

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| **Section 2 – 2021 *[Wheat]* Crop Acres** | **Acres** |
| 2. How many acres of *[Wheat]* were planted for the 2021 crop year?. . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | xxx |
| [If *[Wheat]* acres greater than zero, then continue, otherwise go to **Section** **3**.] | **Acres** |
| 3. How many acres of *[Wheat]* were treated with herbicides?. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | xxx |
| 4. How many acres of *[Wheat]* were treated with insecticides? (Exclude seed treatments). . . . . . . . . . . . .  | xxx |
| 5. How many acres of *[Wheat]* were treated with fungicides? (Exclude seed treatments). . . . . . . . . . . . . .  | xxxx |

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| **Section 3 – 2021 *[[Soybean]]* Crop Acres**  | **Acres** |
| 6. How many acres of *[[Soybean]]* were harvested for the 2021 crop year?. . . . . . . . . . . . . . . . . . . . . . . .  | xxx |
| [If *[[Soybean]]* acres are greater than zero then continue, otherwise go to **Section** **4**.] | **Acres** |
| 7. How many acres of *[[Soybean]]* were treated with herbicides?. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  | xxx |
| 8. How many acres of *[[Soybean]]* were treated with insecticides? (Exclude seed treatments). . . . . .. . . . . .  | xxx |
| 9. How many acres of *[[Soybean]]* were treated with fungicides? (Exclude seed treatments). . . . . . . . . . . .  | xxxx |

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| **Section 4**  |
| **INSTRUCTION:** The next questions will ask about USAGE OF INDIVIDUAL HERBICIDES, INSECTICIDES AND FUNGICIDES ON 2021 CROPS.**Include** applications in the fall of 2020 on crops for the 2021 harvest. Report the acres treated with each individual chemical during 2021 by crop or land use. If pesticides were applied in combination, report each separately. (**Exclude** seed treatments and inoculants.) If **Section 2** *[Crop 1]* crop acres, items 2, 3, or 4 are greater than zero, complete. Otherwise go to **Section 5**. |
| 1. In the following table, please report all herbicides, insecticides and fungicides used on the 2021 *[Wheat]* crop. |
| What Herbicide, Insecticide or Fungicide was applied to the 2021 *[Wheat]* Crop?Name | Product CodeCode | How many acres of *[Wheat]* were treated with Product?Acres | How many applications of Product were made for the 2021 *[Wheat]* crop? (If product was applied multiple times in a season, record each application and its rate on separate lines).Number | At what rate was product appliedRate | Was that rate:1 – Pounds12 – Gallons13 – Quarts14 – Pints15 – Ounces30 – Grams Code |
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| **Section 5**  |
| **INSTRUCTIONS**: If **Section** 3 (*[[Soybean]]* crop acres), items 2, 3 or 4 are greater than zero, complete. Otherwise go to **Section** **6**. |
| 1. In the following table, please report all herbicides, insecticides and fungicides used on the 2021 *[[Soybean]]* crop. |
| What Herbicide, Insecticide or Fungicide was applied to the 2021 *[[Soybean]]* Crop?Name | Product CodeCode | How many acres of *[[Soybean]]* were treated with Product?Acres | How many applications of Product were made for the 2021 *[[Soybean]]* crop? (If product was applied multiple times in a season, record each application and its rate on separate lines).Number | At what rate was product appliedRate | Was that rate:1 – Pounds13 – Quarts14 – Pints15 – Ounces Code |
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[If Herbicide, Insecticide or Fungicide type or quantity is unknown] May we call your dealer, co-op or applicator about the chemicals applied to your operation? Yes\_\_ No\_\_

If Yes, What is the name of the company? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Who should we contact for this follow up information? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Who should we contact at that company? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If Section 3, Q8> 0, then Continue, ElseIf Section 2, Q6>0 skip to Question 10, Else goto Question 11.

1. You have just reported applying insecticides to your soybean crop. The next questions will ask about those insecticide applications. For the insecticide that was applied to the 2021 soybean crop, how it was applied (choose all that apply)?
	1. Farmer- ground application
	2. Farmer- aerial application
	3. Dealer- ground application
	4. Dealer- aerial application
	5. Other
2. You reported using insecticides on your soybean acres. What insects were you targeting? (choose all that apply)
	1. Soybean aphid,
	2. Spider mites,
	3. Others
	4. Do not know

*If 2a=soybean aphid then ask questions 3,4,5,6, otherwise move to question 7*

1. Who scouted your soybean fields for aphids? (choose all that apply)
	1. Farmer
	2. Dealer
	3. Crop consultant
	4. Other than the above
	5. Did not scout
	6. Do not know
2. What threshold (aphids per plant) did you use for applying the insecticide for soybean aphid (select one)?
	1. Did not use thresholds
	2. 1-30,
	3. 31-50,
	4. 51-100,
	5. 101-150,
	6. 151-200,
	7. 201-250
	8. Over 250
	9. Do not know
3. Were records kept for soybean aphid thresholds?
	1. Yes, for all fields
	2. Yes, for some fields
	3. No
	4. Do not know
4. What factors other than thresholds did you consider to make insecticide application for soybean aphid (choose all that apply)?
	1. Did not consider anything other than thresholds
	2. Followed an IPM plan
	3. Followed a calendar schedule
	4. Followed advice from dealer
	5. Followed advice from crop consultant
	6. Followed other farmers
5. What factors other than cost and effectiveness were considered important when choosing an insecticide product (choose all that apply)?
	1. Safety to the applicator
	2. Safety to insect predators
	3. Setbacks from water
	4. Label language regarding bees
	5. Weather
	6. Aphid resistance
	7. None
6. Were there any bee hives within 3 miles of any soybean field when insecticide was applied?
	1. Yes
	2. No
	3. Do not know
7. What setbacks from water, if any, were used?
	1. No setbacks
	2. Setbacks listed on the label
	3. Label did not require setbacks from water
	4. No water around the field
	5. Do not know
8. What percentage of your soybean seeds were treated with insecticide (for all soybean acres)? (This question is placed at the end to avoid confusion with other insecticide application questions)
	1. None
	2. 1-25
	3. 26-50
	4. 51-75
	5. 76-99
	6. 100
	7. Do not know

Integrated Pest Management

The next questions are intended for all crops with a focus on use of IPM for insect pests.  Integrated Pest management, or IPM, is an approach that uses multiple pest control tactics in order to minimize economic, environmental, and human health risks.

1. What is your primary source of information on Integrated Pest Management for insects?
	1. University extension
	2. Independent crop consultant
	3. Seed or chemical company representative
	4. Internet
	5. Other farmers
	6. Other
	7. I do not get information about IPM for insects
2. Which of these Integrated Pest Management practices do you use for insect pest management (select all that apply)?
	1. Biological control (Enum note: use of beneficial insects to kill pests)
	2. Cultural control (Enum note: tillage, crop rotation, delayed planting)
	3. Resistant or tolerant crop seed selection (Enum note: Bt traits, cultivar selection)
	4. Physical control (Enum note: barriers around crops such as high and low tunnels)
	5. Chemical control (Enum note: pesticides)
	6. Other
	7. I don’t have pests to manage
3. What do you view as the primary challenge for implementing Integrated Pest Management?
	1. Cost
	2. Time
	3. Understanding of how to use Integrated Pest Management
	4. Other
	5. I don’t see any challenges

1. If insecticide was used on your wheat, was the decision to use insecticide based on scouting results from the field where the applications were applied?
	1. Yes
	2. No
	3. Occasionally
	4. Insecticide was not used
2. If insecticide was used on your soybean, was the decision to use insecticide based on scouting results from the field where the applications were applied?
	1. Yes
	2. No
	3. Occasionally
	4. Insecticide was not used
3. Do you use pest update information from any of the following sources to make insect pest management decisions (choose all that apply)?
	1. Text alerts
	2. Postal mail
	3. Email
	4. Social media
	5. Websites and/or blogs
	6. Other
	7. I do not use pest updates to make management decisions
4. What factors do you consider when choosing an insecticide (list all that apply)?
5. Insect resistance to certain insecticides
6. Rotation of modes of action
7. Toxicity of insecticide to bees
8. Toxicity of insecticide to humans
9. Prior experience with insecticide
10. Cost of insecticide
11. Other
12. No insecticides are used

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|  **Section 6 – *[Wheat]* Fertilizer Management**I will now ask you about your fertilizer inputs on *[Wheat]* acres.Did all your [Wheat] fields receive manure for the [2021] crop year?1. Yes, all my [Wheat] fields received manure. Go to Section 7.
2. No, I have at least 1 [Wheat] field with no manure applied. - Continue

First on a *[Wheat]* field with no manure or compost applied in the fall of *[2020]* and no manure or compost applied anytime during the *2021* crop year.**A1.** Do you have a *[Wheat]* field without manure applied in the fall of *2020* or anytime in *[2021]* before or during the crop year? Yes\_\_\_\_ [continue] No\_\_\_\_ [Skip to Section 7]Think about your largest *[Wheat]* field that you planted in *2021* without any manure.I will now ask you questions about that specific field. All following questions will be in relation to that specific field.**A5.** How many acres are in this field in *2021*? \_\_\_\_\_\_\_\_\_\_\_\_\_\_**A2.** Was this field irrigated? Yes No**A3.** What was the crop grown on this field in *2020* before the *2021 [Wheat]* crop? (Not including cover crop)1 Soybeans2 corn3 alfalfa (any alfalfa mix)4 small grains (oat, wheat, rye, barley)99 other**A4. If Wheat** [**A3** (2)] What was the crop harvested from this field in the 2019 season, before the last two crops?1 Soybeans2 corn3 alfalfa (any alfalfa mix)4 small grains (oat, wheat rye, barley)99 otherWhat was the yield goal when planting this field in 2021? \_\_\_\_\_\_\_\_\_\_ bushels per acre. **A6.** What was the average yield of this field over the past three *[Wheat]* crops? (or estimate if unknown) \_\_\_\_\_**A7.** Was any commercial fertilizer applied to this *[Wheat]* field for the *2021* *[Wheat]* crop? Yes NoIF no go to Section 7.**A8.** Was any commercial fertilizer applied with a variable rate or more than one rate such as by management zone or grid on this [Wheat] field? Yes NoIf yes, please use a field average for all the fertilizer rate questions.**A9.** What was the total units (actual pounds) per acre of nitrogen applied to this field from all sources and all applications on this field? \_\_\_\_\_**A9.** What type of fertilizer was used to supply the majority of the nitrogen applied to this field? 10 Anhydrous Ammonia11 Urea (urea and coated urea such as ESN or Super U)12 Liquid N (such as 28% or 32%)13 Other99 Unknown**A10.** Did you use a nitrogen inhibitor or stabilizer on this field? Yes No DKI will now ask you for all your commercial fertilizer applications made on this field for the *2021* crop year, again including any *2020* fall applications of commercial fertilizer. Each individual application will be recorded separately, preferably as units per acre.This will include all fall applications in *2020* and all *2021* applications including pre-plant applications, starter/planter applications and post plant applications. ***[Wheat]* Field** [If Fertilizer or Nutrient type or quantity is unknown] May we call your dealer, co-op or applicator to about the fertilizers and nutrients applied to your operation? Yes\_\_ No\_\_If Yes, What is the name of the company? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Who should we contact for this follow up information? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Who should we contact at that company? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Section 7: [Wheat] Manure Management****[Wheat] Field with manure applied.**M1 Now I will ask about a [Wheat] field that was applied with manure for the 2021 growing season.(1) Press Enter to continueM2 How many of your 2021 [Wheat] acres received manure? \_\_\_\_\_\_\_\_\_\_\_\_\_ acres[If 0, Skip to Section 8]Think about your largest [Wheat] field you planted in 2021 with manure applied for the 2021 growing season, including the fall of 2020]. I will ask you questions about that specific field. All questions should be in relation to that specific field.(1) Continue : Press Enter to continueM5 How many acres are in the field? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_M3 What was the crop planted on this field in 2020?(1) Soybeans(2) Corn(3) Alfalfa (any alfalfa mix)(4) Small Grains (oats, wheat, rye, barley)(99) Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_M4 Was alfalfa the previous crop grown in 2020 before the 2021 [Wheat] crop you previously mentioned? (1) YES(3) NOWhat was the yield goal when planting this field in 2021? \_\_\_\_\_\_\_\_\_\_ bushels per acre. M6 What was the average yield of this field over that last 3 [Wheat] crops? (or estimate if unknown) \_\_\_\_\_\_\_\_\_\_\_\_M7 Did the whole [Wheat] field receive manure? (1) YES(3) NOM8 What is the **main** source of manure used on the field?(1) Dairy(2) Beef(3) Hog(4) Poultry(5) Other (goat, sheep, equine, etc)(99) Don't KnowM9 Was the manure applied solid or liquid? Enumertator Note – If farmer reports both solid and liquid, probe by asking “Is the majority of manure applied as a liquid or solid?”(1) Solid(2) Liquid If Solid, what was the rate applied in tons per acre? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ If Liquid, what was the rate applied in gallons per acre? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What wat the date manure application began? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_M13 Did you use a nitrogen inhibitor or nitrogen stabilizer on this field?(1) YES(3) NOM14 What is the total amount of 1st year available Nitrogen applied from the manure as units? (Actual pounds of nitrogen per acre). \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ M20 Was this manure from your own farm operation? (1) YES(3) NOM21 When was the last time the manure was tested for nutrient content?(1) This year (include 2020 applications for the 2021 crop year)(2) Last 3 years(3) Over 3 years ago(4) Don't TestM18 Did you also apply commercial fertilizers to this field for the 2021 crop year? (1) YES(3) NOM19 What were the total units of Nitrogen applied per acre to this field from commercial fertilizers for 2021 crop year, including all sources? Don’t’ forget the starter may include Nitrogen as well as phosphorus or sulfur sources. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Section 8 – *[[Soybean]]* Fertilizer Management**I will now ask you about your fertilizer inputs on *[Soybean]* acres.Did all your [Soybean] fields receive manure for the 2021 crop year?1. Yes, all my [Soybean] fields received manure. Go to Section 9.
2. No, I have at least 1 [Soybean] field with no manure applied.

First on a *[Soybean]* field with no manure or compost applied in the fall of *2020* and no manure or compost applied anytime during the *2021* crop year.**A1.** Do you have a *[Soybean]* field without manure applied in the fall of *2020* or anytime in *2021* before or during the crop year? Yes\_\_\_\_ [continue] No\_\_\_\_ [Skip to Section 9]Think about your largest *[Soybean]* field that you planted in *2021* without any manure.I will now ask you questions about that specific field. All following questions will be in relation to that specific field.**A5.** How many acres were in this field in *2021*? \_\_\_\_\_**A2.** Was this field irrigated? Yes No**A3.** What was the crop grown on this field in *2020* before the 2021 *[Soybean]* crop? (Not including cover crop)1 Soybeans2 corn3 alfalfa (any alfalfa mix)4 small grains (oat, wheat, rye, barley)99 other**A4. If Wheat** [**A3** (2)] What was the crop harvested from this field in the 2019 season, before the last two crops?1 Soybeans2 corn3 alfalfa (any alfalfa mix)4 small grains (oat, wheat, rye, barley)99 otherWhat was the yield goal when planting this field in 2021? \_\_\_\_\_\_\_\_\_\_ bushels per acre. **A6.** What was the average *[Soybean]* yield of this field over the past three *[Soybean]* crops? (or estimate if unknown) \_\_\_\_\_**A7.** Was any commercial fertilizer applied to this *[Soybean]* field for the *2021* *[Soybean]* crop? Yes NoIF no go to **Section 9**.**A8.** Was any commercial fertilizer applied with a variable rate or more than one rate such as by management zone or grid on this [Soybean] field? 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Each individual application will be recorded separately, preferably as units per acre.This will include all fall applications in *2020* and all *2021* applications including pre-plant applications, starter/planter applications and post plant applications. ***[Soybean]* Field** [If Fertilizer or Nutrient type or quantity is unknown] May we call your dealer, co-op or applicator about the fertilizer and nutrients applied to you operation? Yes\_\_ No\_\_If Yes, What is the name of the company? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Who should we contact for this follow up information? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Who should we contact at that company? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Section 9: [Soybean] Manure Management****[Soybean] Field with manure applied.**M1 Now I will ask about a [Soybean] field that was applied with manure for the 2021 growing season.(1) Press Enter to continueM2 How many of your 2021 [Soybean] acres received manure? \_\_\_\_\_\_\_\_\_\_\_\_\_ acres[If 0, Skip to Section 8]Think about your largest [Soybean] field you planted in 2021 with manure applied for the 2021 growing season, including the fall of 2020. I will ask you questions about that specific field. 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Enumerator Note – If farmer reports both solid and liquid, probe by asking “Is the majority of manure applied as a liquid or solid?”(1) Solid(2) Liquid If Solid, what was the rate applied in tons per acre? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ If Liquid, what was the rate applied in gallons per acre? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What wat the date manure application began? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_M13 Did you use a nitrogen inhibitor or nitrogen stabilizer on this field?(1) YES(3) NOM14 What is the total amount of 1st year available Nitrogen applied from the manure as units? (actual pounds of nitrogen per acre). \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ M20 Was this manure from your own farm operation? (1) YES(3) NOM21 When was the last time you manure was tested for nutrient content?(1) This year (include 2020 applications for the 2021 crop year)(2) Last 3 years(3) Over 3 years ago(4) Don't TestM18 Did you also apply commercial fertilizers to this field for the 2021 crop year? (1) YES(3) NOM19 What were the total units of Nitrogen applied per acre to this field from commercial fertilizers for 2021 crop year, including all sources? Don’t’ forget the starter may include Nitrogen as well as phosphorus or sulfur sources. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Section 10: Soil Sampling and Cover Crops – [All Survey Respondents]**What type of soil sampling did you do in the last 5 years on your farm? [Select all that apply]1. Traditional
2. Grid
3. Zone
4. In-season Nitrate test
5. No soil sampling done

Did you tissue test on wheat or soybeans? Yes NoHow many of your wheat or soybean acres were planted with a cover crop? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Date: \_\_ \_\_ \_\_ \_\_ \_\_ \_\_** |
| **This completes the survey. Thank you for your help.** |
| **Response** | **Respondent** | **Mode** | **Enum.** | **Eval.** | **Change** | **Office Use for POID** |
| 1-Comp2-R3-Inac4-Office Hold5-R – Est6-Inac – Est7-Off Hold – Est | 9901 | 1-Op/Mgr2-Sp3-Acct/Bkpr4-Partner9-Oth | 9902 | 1-Mail2-Tel3-Face-to-Face4-CATI5-Web6-e-mail7-Fax8-CAPI19-Other | 9903 | 9998 | 9900 | 9985 | 9989\_\_ \_\_ \_\_ - \_\_ \_\_ \_\_ - \_\_ \_\_ \_\_ |
| **Optional Use** |
| 9907 | 9908 | 9906 | 9916 |
| S/E Name |  |  |  |  |

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**Survey Results:** To receive the complete results of this survey when it is released, go to <http://www.mda.state.mn.us/chemicals/pesticides/pesticideuse.aspx> and<http://www.mda.state.mn.us/en/protecting/cleanwaterfund/gwdwprotection/nutrientmgmtsurvey.aspx> |
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